

## Problem 3.43: Op-Amp Circuit

The following circuit (Figure 3.84) is claimed to serve a useful purpose.

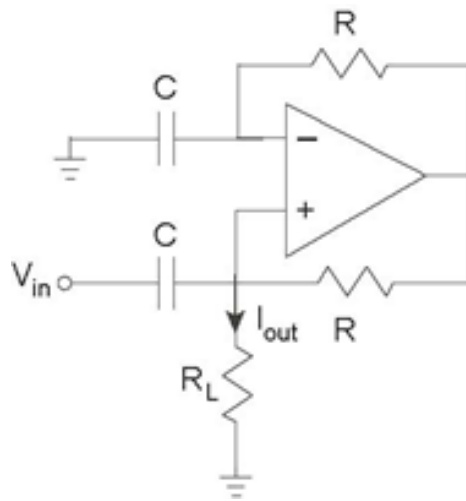


Figure 3.84 Op-Amp Circuit

1. What is the transfer function relating the complex amplitude of the output signal, the current  $I_{out}$ , to the complex amplitude of the input, the voltage  $V_{in}$ ?
2. What equivalent circuit does the load resistor  $R_L$  see?
3. Find the output current when

$$v_{in} = V_0 e^{-\frac{t}{\tau}}$$